

## Abstract

A capacitive digital caliper comprises a main beam and a slider, a rack and a gear are mounted on the main beam and the slider respectively.

This gear system changes the linear position  $x$  on the main beam into

5 angular position  $(\theta + 2N\pi)$ , and the angular position is measured by a

capacitive measuring device. The capacitive measuring device of angular

position is seally isolated from the rack and gear by a seal cavity and a

seal member. Therefore, the caliper can be used under a poor condition at

present of particulate and fluid contaminants. The present invention is

10 particularly suitable for being used in the field of mechanical work.

(Fig. 1A)